

What is claimed is:

1. Device for measuring and assessing the mutual alignment of bodies, with at least one laser gyro, wherein the device has means for receiving and processing voice commands of an operator and switching the device into an altered machine status based on the voice commands.

2. Device for measuring and ~~measuring~~ and assessing the mutual alignment of bodies, with at least one laser gyro, wherein the device has speech output means for acoustically providing determined measurement results.

3. Device for measuring and assessing the mutual alignment of bodies, with at least one laser gyro, wherein the device has an ergonomically attached individual key for actuation by the thumb or forefinger which, when actuated by an operator, causes storage of an individual measured value out of a time-sequential succession of measured values.

4. Device for measuring and assessing the mutual alignment of bodies, with at least one laser gyro, wherein the device has a high-resolution display device for reproduction of alphanumeric or graphic information, using which an operator can recognize whether and in what manner correction measures can be carried out on the articles to be measured.

5. Device for measuring and assessing the mutual alignment of bodies, with at least one laser gyro, wherein the device is provided with transmission means for wirelessly receiving or exchanging at least one of data, commands and other information with an externally arranged control or a higher-level supervisory computer,

6. Device as claimed in claim 5, wherein said transmission means is a data transmission device utilizing one of infrared light and extremely high frequency radio waves as a data carrier.

7. Device as claimed in claim 6, further comprising an antenna for transmitting or receiving extremely high frequency radio waves is integrated into a handle of the device.

8. Device as claimed in claim 5 or 6, wherein the externally arranged control or a higher-level supervisory computer contains a speech input or speech output function.

9. Device as claimed in claim 5, wherein the externally arranged control or higher-level supervisory computer has means for carrying out a time-sequential succession of measured value acquisitions to ascertain the orientation of bodies in a stochastic, nonperiodic manner.

10. Device as claimed in claim 5, wherein the externally arranged control or higher-level supervisory computer has means for performing an averaging measured value acquisition to ascertain the spatial orientation of the bodies or the device in a time-sequential manner with a measurement frequency which excludes the following frequency ranges or values, integral fractions or integral multiples thereof:

- the range from 47 to 53 Hz or from 56 Hz to 64 Hz
- the range of a technical line frequency
- a rotational or oscillation frequency of a machine integrated into the bodies to be measured
- a frequency band which is located in the immediate vicinity of a mechanical acceleration frequency which occurs at a selected measurement site with above average intensity or which can appear there.

11. Device as claimed in claim 5, wherein the externally arranged control or higher-level supervisory computer has means for acquiring averaging measured values at a selected measurement site for ascertaining the spatial orientation of bodies or the device in a time-sequential manner with a measurement frequency at which current mechanical acceleration values with comparatively low intensity are represented or assume a minimum value.

12. Process for measuring and assessing the mutual alignment of bodies, comprising the following steps:

- contacting a measurement probe with a first body which has a reference surface or edge;
- inputting a command by an operator to the measurement probe by speech input;

- Sub  
23  
(contd)
- waiting, if necessary, for one of an optical, acoustic and speech-linked acknowledgement signal;
  - contacting the measurement probe with a second body which has a measurement surface or a measurement edge,
  - inputting of another command to the measurement probe by speech input,
  - waiting, if necessary, for one of an optical, acoustic, and speech-linked acknowledgement signal;
  - inputting, if necessary, of dimension data which describe an arrangement or distances of the bodies relative to one another, by means of at least one of a keyboard, a speech input means and a display which facilitates ordered or structured input of dimension data;
  - computing geometrical data which describe the mutual orientation of the bodies in a differential manner;
  - outputting of information which has differences of orientation between the first and the second body, on one of an optical, acoustic, and speech-linked basis, to an operator; and
  - if necessary, outputting of information which can enable an operator to undertake at least one of correction and calibration measures on either the first body or the second body so that mutual alignment of these bodies is improved.

13. Process for measuring and assessing the mutual alignment of bodies, comprising the following steps:

- Sub  
24  
Pent
- determining solid-borne sound quantities which are present in a vicinity of or directly on a stipulated measurement surface of the bodies to be measured;
  - analyzing the solid-borne sound quantities according to periodic and nonperiodic portions;
  - determining a frequency which is characterized by a minimum value of the periodic portions of the determined and analyzed solid-borne sound quantities,
  - acquiring multiple average-forming measured values for displaying of orientation indication values on one of the bodies with a repetition frequency which corresponds to that frequency at which a minimum of the periodic portions of solid-borne sound quantities has been recognized and with an integral fraction of this frequency.

ADD  
a4

[illegible]